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RECENT BOOKS AND PAMPHLETS.—Proceedings of the U. S. National Museum, 1882, pp. 1–48 and 385–400. Washington, 1882. Also Appendices Nos. 13–17. From the department.

Description of new species of Fishes from Mazatlan, Mexico, by D. S. Jordan and C. H. Gilbert. Ext. from Proc. U. S. Nat. Mus., April, 1882. From the authors.

Bulletin of the U. S. Fish Commission, pp. 289–336, pl. 2. May, June, 1882. Washington. From the department.

Catalogue of the Australian stalk and sessile-eyed Crustacea. By Wm. A. Haswell, M.A., B.Sc. pp. 328, pl. 3. Sydney, 1882. From the trustees of the Australian Museum, Sydney.

American Journal of Science, July, 1882.

Bulletin of the U. S. National Museum. No. 19. Nomenclator Zoologicus. By S. H. Scudder. Part 1. Supplemental List, pp. 376. Washington. From the department.

Bulletin Mensuel de la Société National d'Acclimatation de France. Paris, Avril, 1882.

Geological Sketches at Home and Abroad. By A. Geikie, LL.D., F.R.S. pp. 332, 29 woodcuts. New York, Macmillan & Co., 1882. From the author.

Boletin del Ministerio de Fomento. Mexico, Diciembre, 1881, Enero, 1882. From the department.

Report of the Board of Regents of the Smithsonian Institution. Washington, 1881. From the institution.

Biologisches Centralblatt, 1881, pp. 752. Also 1882 to page 176.

On the Relation of the Quincy Granite to the primordial Argillite of Braintree, Mass. By M. E. Wadsworth. pp. 4. Ext. from Proc. Bost. Soc. Nat. Hist. From the author. Also by and from the same—

On the Trachyte of Marblehead Neck, Mass.

Jahrbücher der Deutschen Malakozoologischen Gesellschaft, Heft II, 1882. Frankfurt am Main. II Tafeln.

Die Süsswasser perlen auf der internationalen Fisherei-austellung in Berlin, 1880. Von Dr. H. Nitsche (Abdruck aus dem amtlichen Bericht IV, p. 83–94.) pp. 32. From the author.

Proceedings of the Academy of Natural Sciences of Philadelphia. Part I. Jan. to April, 1882, pp. 184, pl. 1. From the society.

Ueber das Vorkommen eines gemengten Diluviums und anstehenden Tertiargebirges in den Dammer Bergen, im Suden Oldenburgs. Von K. Martin, in Leiden. p. 24. From the author.

Beitrage zur Kenntniss der Fische Afrika's (II) und Beschreibung einer neuen Paraphoxinus Art aus der Herzegowina. Von Dr. F. Steindachner. pp. 18. Tafeln 6. From the author.

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GENERAL NOTES.

BOTANY.[1]

NOTE ON UREDINEÆ.—Those botanists who have given attention to the parasitic fungi, have observed the great and often extreme conservatism of the English fungologists, especially in regard to the later views as to the nature and relationship of the Uredineæ. The old genera Æcidium, Rœstelia, Lecythea, Trichobasis and Uredo have continued to find place in the books although their autonomy was long since disproved, or rendered highly doubtful. It is doubtless better that innovations in science should be slowly accepted, but it is equally without doubt that there has been too great a holding back from the recent suggestions made by the continental botanists. It is, therefore, gratifying to find in the last number of *Grevillea*, a paper on "Exotic Fungi," by M. C. Cooke, in which the modern views as to the Uredineæ appear to be fully accepted. In this paper the species of Puccinia are described as including three stages, viz: I. The Æcidium stage; II. The Uredo stage; and III. The Teleutospore stage. This is practically identical with the method followed by Fuckel in his *Symbolæ Mycologicæ.* In the year 1879 Cooke published a rearrangement of the British species of Uromyces, in *Grevillea*, in which he brought together the three stages of the plants of that genus, in a manner similar to that now adopted for Puccinia. We may then fairly conclude that so far as the great English fungologist is concerned, the autonomy of Æcidium is no longer to be admitted. While it may be necessary for us to name the new Æcidia as found, as is done by Cooke in his last article in *Grevillea*, such names are not to be regarded as having right to place in any system of classification. The *Æcidium acanthaccarum*, *Æ. plectroniæ*, *Æ. dissotidis*, *Æ. vangueriæ* and *Æ. cardiospermi*, described as new by Cooke, must be considered as so many imperfect forms of Uredineæ, and the names given them are merely for their convenient and ready designation.

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[1] Edited by PROF. C. E. BESSEY, Ames, Iowa.

If now we are to accept this view of the nature of the Uredineæ, why should we not, for the sake of uniformity, call the first the conidial stage, the second the stylosporous stage, and the third the teleutosporous stage; the first producing conidia, the second stylospores and the third teleutospores. Certainly the homologies would be more fully respected by the use of these terms. It is, perhaps, too early to urge that as the teleutospores appear to be in reality reduced asci, containing one or more ascospores, they should be called asci simply. We have elsewhere given reasons for considering the Uredineæ to be greatly reduced or degraded Ascomycetes, and they need not be repeated here. The conidia (with their accompanying spermatia) and stylospores of Uredineæ have the same general relation to the teleutospores that the conidia, spermatia and stylospores of ordinary Ascomycetes have to the asci and ascospores, and they might well bear the same names.

ALLEN'S CHARACEÆ AMERICANÆ EXSICCATÆ. — Of this most excellent work, the second and third fasciculi have recently appeared. The specimens are ample and are so well preserved that they invite even the tyro to their study. In fasciculus II, the species are as follows, the numbers continued from fasciculus I: 11, 12, 13, 14, *Chara coronata* Ziz., various forms; 15, *Ch. excelsa* Allen; 16, *Ch. evoluta* Allen; 17, 18, *Ch. fœtida* A. Br., two forms; 19, *Ch. contraria* A. Br.; 20, *Ch. fragilis* Desv.

In fasciculus III the species are: 21, *Ch. fragilis* Desv., a second form; 22, *Ch. delicatula* Ag.; 23, *Ch. gymnopus* var. *elegans*

A. Br.; 24, *Ch. gymnopus* var. *Humboldtii* A. Br.; 25, *Ch. sejuncta* A. Br.; 26, *Ch. aspera* Willd.; 27, *Ch. aspera* Willd., var. *Macounii;* 28, 29, *Nitella flexilis* Ag.; 30, *N. flexilis* Ag., var. *subcapitata* A. Br.

Readers of the NATURALIST can render a real service to science by collecting and forwarding good specimens of Characeæ to the author of these fasciculi, Dr. T. F. Allen, No. 10 East 36th St., New York city. Specimens should be collected in midsummer.

COLORED FIGURES OF THE LARGER FUNGI.—Fries' "Icones Selectæ Hymenomycetum nondum delineatorum." Of this beautiful and valuable publication begun by the late Elias, Fries in 1867, the 6th Fascicle of the 2d vol. has lately been issued bringing the work up to plate 170 and containing, in all, figures of 468 species, mostly *Agarics.* The figures are colored lithographs on sheets of fine heavy paper 11x15 inches, and are justly considered as the *ne plus ultra* of mycological illustrations. No one who has seen them will question their artistic merit and the fact that the original drawings were done under the direct supervision of the illustrious Fries is a sufficient guarantee of their scientific accuracy.

Kalchbrenner's "Icones Selectæ Hymenomycetum Hungariæ," of which only 40 plates have been published, is a work entirely similar in style and character to the above.

The "Figures peintes des Champignons," by Monsieur le Capitaine Lucand (Autun, Saone et Loire, France), are also worthy of high commendation. These are on sheets about 10x13 inches. The figures are beautifully colored and shaded, being, in fact in point of artistic merit, not inferior to those of Fries' Icones. Monsieur Lucand has now issued two fascicles of 25 plates each, at 30 francs per fascicle.

The first two publications mentioned are sold at about $25 per 100 plates.—*J. B. Ellis, Newfield, N. J.*

THE SCARCITY OF ALDER CATKINS.—Professor Bailey speaks in the April number of the *Torrey Bulletin*, of the comparative lack of the alder catkins of the male sex, near Providence, R. I. In this vicinity I notice also but few male catkins, whereas plenty of female flowers are to be found.—*C. S. Plumb, Amherst, Mass.*

BOTANICAL NOTES.—Dr. W. P. Wilson's paper on the respiration of plants in the June number of the *Amer. Journal of Science* is an excellent resumé of our present knowledge of this difficult subject. Respiration of plants, *i. e.* the taking in of oxygen and the giving off of carbon dioxide is now known to be a complex process exactly analogous to the respiration of animals. The carbon dioxide excreted in plant respiration is not, as was formerly supposed, a product of direct oxidation from the free oxygen of the air.——Mr. Darwin in one of his latest papers read before the Linnean Society showed that root hairs are developed only upon particular surface cells, and not indifferently upon any of them. Only those surface cells which contain non-granular contents give rise to root hairs.——In the *Daily Spy* of Worcester, Mass., Joseph Jackson, of the Worcester Natural History Society, is publishing from time to time, lists of the plants of the season as they appear, with pleasant notes upon many of them. It would be a good thing for American botany if plant collectors generally were to follow Mr. Jackson's example.——The Orange Judd Co., of New York, has brought out an American edition of "The Chemistry of the Farm," by R. Warington, F. C. S. The first five chapters are devoted to Plant Growth, Sources of Plant Food, Manures, Crops, and Rotation of Crops, all more or less botanical. In these chapters the matter is unusually good, the latest views generally being adopted. The book can be heartily commended.——A curious paper on "Pollen Tubes," appears in the June *Am. Mo. Mic. Journal*, by J. Kruttschnitt. The writer proposes the theory that "the pollen tubes insinuate themselves amongst the papillæ of the stigma where, on bursting, the fovilla is taken up by the conducting tissue of the style." This conducting tissue is supposed to convey the fovilla to the ovules! The editor of the *Journal* ought to have cut out the theory from the article before publishing it, as it may mislead some of the younger readers who are not well grounded in vegetable histology and physiology.——Mention should have been made in these notes long ere this, of the slides prepared by Rev. A. B. Henry, of Taunton, Mass., to illustrate the sexual and asexual reproduction of the Marine Algæ. In set I six slides represent the sexually produced spores of six different species, each representing a family of the Floridiæ according to Agardh's classification. Set II is made up of similar preparations, taking however a wider range, and including species of lower orders. The sets may be obtained for three dollars each, which, considering their great usefulness, is very cheap indeed. Professor Underwood is at work on the Hepaticæ of North America, and we may hope to receive from his hands, some day, a manual of these neglected plants.——Professor Penhallow, of the Houghton Farm Experiment Station, at Mountainville, Orange county, N. Y., has issued a circular directing attention to many points in the life-history of the disease known as "peach yellows." We trust that as many of the NATURALIST readers as can do so, will aid in this work by correspondence with the professor.——The April *Torrey Bulletin* appeared with nine full page plates, of which eight were illustrative of Dr. Allen's paper on the "Development of Cortex in Chara." The excellent work done by Dr. Allen on the Charæ is one that will commend itself to all students of plants.——In the May *Botanical Gazette* C. H. Peck describes fourteen new species of fungi from California and Arizona. One, a remarkable species of Lycoperdon, is named *L. pachydermum.*